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plurality of homogeneous encoders are advantageously employed in combination with a corresponding plurality of advantageously substantially identical decoders. In particular, diversity is provided to the multiple encoders by modifying the quantization process in at least one of the encoders *such that the modified quantization process is based at least on a quantization error resulting from the quantization process of another one of the encoders*. In this manner, diversity among the multiple bit streams is obtained, and in particular, the quality of a reconstructed signal based on a combination of multiple decoded bit streams at the receiver is advantageously superior to that based on any one of the decoded bit streams alone.” (See “Summary of the Invention” section of the instant specification, page 3, lines 7-17, emphasis added.)

First, Applicant traverses herein the outstanding rejection to instant independent claim 1, which recites a “multi-descriptive encoder for generating a plurality of multi-descriptive bit streams from a *single source signal*” (see instant claim 1, lines 1-2, emphasis added) which comprises “a first coder applied to [a] source signal” (see instant claim 1, line 4) and “a second coder applied to the [same] source signal” (see instant claim 1, line 10), and “wherein said second quantized data value as produced by said second quantization process [of the second coder] is based at least in part on said first quantization error resulting from said first quantization process [of the first coder]” (see instant claim 1, lines 17-19). The instant office action cites in particular certain portions of Jafarkhani and alleges that they disclose all of the limitations of claim 1. (See pages 4-5 of the instant office action.) In particular, the office action cites col. 5, line 15 to col. 6, line 14, and col. 7, line 48 to col. 8, line 60 of the reference, as allegedly disclosing, *inter alia*, the claim 1 limitation “wherein said second quantized data value as produced by said second quantization process is based at least in part on said first quantization error resulting from said first quantization process” (see instant claim 1, lines 17-19). Applicant submits, however, that nowhere in col. 5, line 15 to col. 6, line 14 or in col. 7, line 48 to col. 8, line 60 of Jafarkhani is disclosed the claim 1 limitation “*wherein said second quantized data value as produced by said second quantization process is based at least in part on said first quantization error resulting from said first quantization process*” (emphasis added), which, as described in the “Summary of the Invention” portion of the instant specification (see above), is an essential aspect of the present invention.

Specifically, the cited portions of Jafarkhani describe Figs. 2 and 13 thereof, each of which illustrates an encoder comprising two quantizers – namely, quantizers 22 and 23. As can clearly be

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seen in these figures, neither of these quantization processes (*i.e.*, quantizers) produces a quantized data value “based at least in part on [a] quantization error resulting from [the other] quantization process,” as is required by instant claim 1. Moreover, it can also be seen from the figures that these quantizers (*i.e.*, quantizers 22 and 23 of the Jafarkhani figures) are *not* being applied to the same “single source signal” as is required by instant claim 1 (see above). Rather, the quantizers of Jafarkhani are being applied to different input variable pairs – *i.e.*, quantizer 22 is applied to variables “C” and “D-PERP” while quantizer 23 is applied to variables “C-PERP” and “D”, each of which has been derived (with use of transformer 21) from *two different* input coefficients “A” and “B” (see Jafarkhani, col. 4, line 59 to col. 5, line 16). Thus, Applicant respectfully submits that instant claim 1 is not anticipated by Jafarkhani for at least both of these reasons.

Similarly, instant independent claim 21 is, for the same reasons, not anticipated by Jafarkhani. Claim 21 recites a “multi-descriptive decoder system for decoding a plurality of multi-descriptive bit streams [which] . . . have been generated by a multi-descriptive encoder” (see instant claim 21, lines 1-10) which (identically to the encoder recited in claim 1) comprises “a first coder applied to [a] source signal” (see instant claim 21, line 12) and “a second coder applied to the [same] source signal” (see instant claim 21, line 19), and “wherein said second quantized data value as produced by said second quantization process [of the second coder] is based at least in part on said first quantization error resulting from said first quantization process [of the first coder]” (see instant claim 21, lines 26-28). Thus, for the same reasons as those applied to claim 1 above, Applicant respectfully submits that instant claim 21 is also not anticipated by Jafarkhani.

And also, similarly, instant independent method claims 33 and 53 are not anticipated by Jafarkhani, again for the same reasons as described above. This is because claim 33, directed to a “method for performing multi-descriptive encoding of a single source signal and for generating a plurality of multi-descriptive bit streams therefrom” (see instant claim 33, lines 1-2), contains essentially the same limitations as does claim 1 (albeit in method form), and because claim 53, directed to a “method of decoding a plurality of multi-descriptive bit streams [which] . . . have been generated by a multi-descriptive encoder” (see instant claim 53, lines 1-3), contains essentially the same limitations as does claim 21 (also albeit in method form).

Next, Applicant traverses herein the rejection of instant independent claim 14, which recites a “multi-descriptive encoder for generating a plurality of multi-descriptive bit streams from a *single*

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source signal" (see instant claim 14, lines 1-2, emphasis added) which comprises "a first coder applied to [a] source signal" (see instant claim 14, line 4) and "a second coder applied to the [same] source signal" (see instant claim 14, line 6), and "wherein said first multi-descriptive bit stream and said second multi-descriptive bit stream differ, and wherein *each bit stream is decodable by an identical decoding algorithm* to generate a corresponding different reconstruction of said source signal" (see instant claim 14, lines 8-10, emphasis added). Regarding claim 14, the instant office action (summarily) states that "the claims are similar in scope and/or content to the encoder of claims 1-5 and 10-12, and therefore are rejected under similar rationale" (see instant office action, page 8). Applicant first submits that for the above reasons, the "similar rationale" used in the outstanding rejection of claims 1-5 and 10-12 is hereby rendered inapplicable (*i.e.*, since Applicant has traversed the outstanding rejection to claim 1). And more specifically, Applicant submits that nowhere in any of the cited portions of Jafarkhani are the limitations of claim 14 disclosed. In particular, none of the cited portions of Jafarkhani disclose first and second coders (*e.g.*, quantizers) being applied to the same single source signal (see discussion above), nor do they show first and second multi-descriptive bit streams which are "*decodable by an identical decoding algorithm* to generate a corresponding different reconstruction of [the] source signal" (emphasis added). Thus, Applicant respectfully submits that instant claim 14 is also not anticipated by Jafarkhani, for at least both of these reasons.

Similarly, instant independent claim 27 is, for the same reasons, not anticipated by Jafarkhani. Claim 27 recites a "multi-descriptive decoder system for decoding a plurality of multi-descriptive bit streams each comprising a different representation of a single source signal" which comprises a "plurality of decoders employing an identical decoding algorithm" (see instant claim 27, lines 1-3 and lines 7-8). Regarding claim 27, the instant office action (summarily and) similarly states that "the claims are similar in scope and/or content to the decoder of claims 21-23 and 26, and therefore are rejected under similar rationale" (see instant office action, page 8). Applicant first submits that for the above reasons, the "similar rationale" used in the outstanding rejection of claims 21-23 and 26 is hereby rendered inapplicable (*i.e.*, since Applicant has traversed the outstanding rejection to claim 21). And more specifically, Applicant submits that nowhere in any of the cited portions of Jafarkhani are the limitations of claim 27 disclosed. In particular, none of the cited portions of Jafarkhani disclose "decoding a plurality of multi-descriptive bit streams each

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comprising a different representation of a *single source signal*" or a "plurality of decoders employing an *identical decoding algorithm*" (emphasis added). Thus, for similar reasons as those applied to claim 14 above, Applicant respectfully submits that instant claim 27 is also not anticipated by Jafarkhani.

And finally, instant independent method claims 46 and 59 are not anticipated by Jafarkhani, again for the same reasons as described above. This is because claim 46, directed to a "method for performing multi-descriptive encoding of a single source signal and for generating a plurality of multi-descriptive bit streams therefrom" (see instant claim 46, lines 1-2), contains essentially the same limitations as does claim 14 (albeit in method form), and because claim 59, directed to a "method of decoding a plurality of multi-descriptive bit streams each comprising a different representation of a single common source signal" (see instant claim 59, lines 1-2), contains essentially the same limitations as does claim 27 (also albeit in method form).

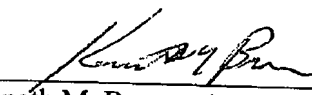
For the above reasons, therefore, Applicant submits that independent claims 1, 14, 21, 27, 33, 46, 53 and 59 are each patentable over the cited reference, and, since each of dependent claims 2-7, 10-13, 15-17, 20, 22-23, 26, 28-29, 32, 34-39, 42-45, 47-49, 52, 54-55, 58, 60-61 and 64 depend from one of these independent claims, that each of these dependent claims are patentable over the cited reference for at least the same reasons. Thus, each of these claims should be allowed. And, moreover, since each of claims 8, 9, 18, 19, 24, 25, 30, 31, 40, 41, 50, 51, 56, 57, 62 and 63, which had been withdrawn from consideration in response to the above-referenced species election requirement (unsuccessfully traversed by Applicant), depend from a generic claim (*e.g.*, one of claims 5, 16, 21, 27, 37, 48, 53 and 59) which is, Applicant submits, patentable, Applicant further submits that each of these claims is patentable over the cited reference for at least the same reasons and should also be allowed (*i.e.*, the species election requirement should be withdrawn).

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Therefore, Applicant submits that all of the instant claims are patentable over the cited references and that the instant application is in condition for allowance. Reconsideration of this application is respectfully requested in light of this submission. The Examiner is invited to telephone Applicant's attorney, Kenneth M. Brown, at (908) 582 - 5998, should there be any questions or issues for discussion in the reconsideration of the pending application.

Respectfully,

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